Notice No.7

Rules and Regulations for the Classification of Ships, July 2022

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Please note that corrigenda amends to paragraphs, Tables and Figures are not shown in their entirety.

Issue date: June 2023

Amendments to	Adoption Date	Applicable Date
Part 1, Chapter 1, Section 5	1 July 2023	1 July 2023
Part 1, Chapter 2, Section 2	1 July 2023	1 July 2023
Part 1, Chapter 3, Sections 2, 14 & 24 (New)	1 July 2023	1 July 2023

Part 1, Chapter 1
General Regulations

■ *Section 5*
Applicability of Classification Rules and Disclosure of Information

5.1 LR has the power to adopt, and publish as deemed necessary, Rules relating to classification and has (in relation thereto) provided the following:

a. Except in the case of a special directive by the Board, no new Regulation or alteration to any existing Regulation relating to classification or to class notations is to be applied to existing ships.
b. Except in the case of a special directive by the Board, or where changes necessitated by mandatory implementation of International Conventions, Codes or Unified Requirements adopted by the International Association of Classification Societies are concerned, no new Rule or alteration in any existing Rule is to be applied compulsorily after the date on which the contract between the ship builder and shipowner for construction of the ship has been signed, nor within six months of its adoption. Notification of a new Rule or alteration may be issued on, or shortly after, the adoption date. The notice will include reference to the new Rule or marked up rule text showing alterations and any relevant IACS or IMO requirements. The date of 'contract for construction' of a ship is the date on which the contract to build the ship is signed between the prospective shipowner and the ship builder. This date and the construction number (i.e. hull numbers) of all the vessels included in the contract are to be declared by the party applying for the assignment of class to a newbuilding. *(part only shown)*

Part 1, Chapter 2
Classification Regulations

■ *Section 2*
Character of classification and class notations

2.8 Descriptive notes

2.8.11 **CSS** This descriptive note is assigned to container ships where the container securing software is provided on board and certified by another IACS member.

Existing paragraphs 2.8.11 and 2.8.12 have been renumbered 2.8.12 and 2.8.13.

2.8.16 Lifting appliances which fully meet the requirements for certification by LR (*see Ch 1, 1.2 Certification 1.2.5*, *Ch 12, 3.2 Initial Survey of new installations* and *Ch 13, 2.1 Initial Surveys* of LR’s *Code for Lifting Appliances in a Marine Environment*) and are under Periodical Survey by LR (*see Ch 12, 3.4 Periodical Thorough Examinations* and *Ch 13, 2.2 Periodical Surveys* of LR’s *Code for Lifting Appliances in a Marine Environment*) are eligible to be assigned a descriptive note **LAC** at the Owner’s request.

Part 1, Chapter 3
Periodical Survey Regulations

■ *Section 2*
Annual Surveys - Hull and machinery requirements

2.2 Annual Surveys

2.2.26 Where fuel cells are installed, *see Pt 1, Ch 3, 24 Fuel Cell Power Installations*.

Existing paragraphs 2.2.26 to 2.2.46 are to be renumbered 2.2.27 to 2.2.47.

~~2.2.47~~ 2.2.48 The Surveyor is to confirm that, for container ships which have the special features notation **BoxMax**, the onboard lashing program, together with its operation manual, is available on board, *see Pt 3, Ch 4, 8 Loading guidance information*. The operation of the program is to be verified in accordance with LR’s certification procedure. These requirements also apply to container ships provided with an onboard lashing program certified by another IACS member whenever **CSS** descriptive note is assigned.

Existing paragraphs 2.2.48 to 2.2.52 are to be renumbered 2.2.49 to 2.2.53.

■ *Section 14*
Electrical equipment

14.2 Complete Surveys

14.2.3 ~~Generator circuit-breakers are to be tested, so far as practicable, to verify that protective devices including preference tripping relays, if fitted, operate satisfactorily.~~ Correct operation of protection devices for generators and other electrical energy converters are to be verified, including blackout prevention measures, if fitted.

■ *Section 24*
Fuel cell power installations

Existing Section 24 has been renumbered 25.

24.1 General

24.1.1 This Section provides requirements for the survey of fuel cell power installations as defined in *Pt 5, Ch 26, 1.3 Definitions* and supplements the applicable requirements of *Pt 1, Ch 3, 23 Fuel installations using gases or other low-flashpoint fuels*.

24.1.2 The survey requirements in this Section may be supplemented or replaced by alternative/equivalent survey requirements as may be specified in the vessel’s alternative and equivalent design documentation (AED).

24.2 Annual Surveys

24.2.1 The fuel cell power system, boundaries of spaces containing fuel cells and reforming equipment, and associated piping systems are to be examined.

24.2.2 The ventilation arrangement of the spaces containing fuel cells and reforming equipment, associated airlocks, and any ventilated external boundary enclosing the fuel path that is provided in lieu of equipment protection in the space concerned, shall be examined and function tested as applicable.

24.2.3 Monitoring, control and safety functions for fuel cell and reforming equipment are to be tested as far as practicable.

24.2.4 The fuel cell inerting systems of any inerted external boundary enclosing the fuel path that is provided in lieu of equipment protection in the space concerned shall be examined and tested as far as practicable.

24.2.5 The gas detection and other fuel leakage detection equipment in spaces containing fuel cells and reforming equipment, including internal leakage detection in any ventilated or inerted external boundary enclosing the fuel path that is provided in lieu of equipment protection in the space concerned, shall be tested as far as practicable. Means of calibration are to be examined and calibration records are to be reviewed.

24.2.6 The operation of the fuel cell power system shutdown, fuel supply isolation, and emergency shutdown (ESD) of equipment and components, as applicable, shall be tested as far as practicable.

24.2.7 The fixed fire detection and fire-extinguishing systems installed in spaces containing fuel cells and reforming equipment shall be examined and function tested as far as practicable.

24.2.8 Satisfactory operation of the following is to be verified where inerting is accepted for atmospheric control of the fuel cell space:

- The arrangements for fuel cell space entry prevention during inerting;
- Monitoring of inerting media;
- Monitoring of space pressure.

24.2.9 Where power for propulsion or other essential services is provided entirely by fuel cell power installations, it is to be verified that one fuel cell power installation is retained in operation or is capable of being brought into operation in the event of a failure of the other.

24.3 Complete Surveys

24.3.1 The approved alternative design documentation, if applicable, is to be confirmed as being on board the vessel.

24.3.2 Calibration records for gas detectors, temperature sensors, pressure sensors, level indicators, and other equipment providing input to alarm, monitoring and safety systems associated with the fuel cell power installation are to be examined.

25.3.3 All required alarm, monitoring, control and safety functions for the fuel cell power system and ancillary systems shall be tested.

24.3.4 The operation of the automatic fuel cell power system shutdown and fuel supply isolation shall be tested. This includes emergency shutdown (ESD) of equipment and components, as applicable.
24.3.5 The operation of gas detection and other leakage detection equipment in spaces containing fuel cells and reforming equipment shall be tested.
24.3.6 The fuel cell power system and associated piping is to be examined, including electrical bonding arrangements of pipes in gas hazardous areas.

24.3.7 The purging of fuel cells and reforming equipment using an inert gas or mixture of inert gas and flammable gas, as applicable, shall be tested.

24.3.8 The operation of pressure relief valves protecting isolatable fuel piping sections which are not open-ended is to be verified.

24.3.9 The boundaries of spaces containing fuel cells and reforming equipment are to be examined for gas tightness, fire rating and structural integrity, as applicable.

24.3.10 The ventilation arrangement of the spaces containing fuel cells and reforming equipment and associated airlocks shall be examined and function tested, as applicable.

24.3.11 Electrical equipment in gas hazardous areas and areas where gas hazards may exist under abnormal conditions is to be surveyed in accordance with *Pt 1, Ch 3, 14.2 Complete Surveys 14.2.14*.

24.3.12 The fixed fire detection and fire-extinguishing systems installed in spaces containing fuel cells and reforming equipment shall be examined and function tested, as feasible.

24.3.13 For vessels where a ventilated or inerted external boundary that encloses the fuel path is provided in lieu of equipment protection in the space concerned, the following shall be examined and function tested:
- (a) General condition of the outer boundary;
- (b) Internal gas leakage detection and automatic shutdown;
- (c) Enclosure ventilation, including monitoring and alarms;
- (d) Inerting of the secondary boundary, if applicable.

24.3.14 For vessels where inerting of the fuel cell space is accepted for atmospheric control, the following shall be function tested:
- (a) Inerting agent release;
- (b) Inerting agent pressure monitoring;
- (c) Automatic fuel shut-off upon pressure change in the space;
- (d) Access prevention after release of the inerting agent;
- (e) Evacuation of the inerting agent.

24.3.15 In addition to the requirements given above, fuel cell power installations which supply power for propulsion of the ship or other essential services shall be surveyed as follows:
- (a) The fuel cell maintenance records are to be examined.
- (b) The fuel cell modules and fuel reformers, if fitted, are to be examined. A limited opening up, e.g. removal of inspection covers, should be undertaken in order that the Surveyor can confirm their condition.
- (c) Components in auxiliary ship services, such as cooling water, process water, compressed air, inert gas, etc., are to be surveyed in accordance with *Pt 1, Ch 3, 11 Machinery surveys - General requirements*.
- (d) Electrical components, cabling and protection devices are to be surveyed in accordance with *Pt 1, Ch 3, 14 Electrical equipment*.
- (e) The fuel cell power systems shall be tested under working conditions, demonstrating the operation of fuel cell and reformer, its automatic controls, ancillary systems, and electric power conditioning equipment.

24.3.16 Where power for propulsion of the ship or other essential services is provided entirely by fuel cell power installations, it is to be confirmed that:
- (a) Means are provided so that a fuel cell can be brought into operation from the dead ship condition without external aid;
- (b) One fuel cell power installation is retained in operation or is capable of being brought into operation in the event of a failure of the other.

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